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TUNNOCK, A.

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INTERMOUNTAIN FOREST AND RANGE EXPERIMENT STATION  
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FOREST SERVICE, U. S. DEPARTMENT OF AGRICULTURE

Ogden, Utah

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SUMMARY OF FOREST INSECT FIELD SURVEILLANCE  
REPORTS SUBMITTED TO THE MISSOULA FOREST  
INSECT LABORATORY IN 1959

Archibald Tunnock, Jr., Entomologist

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Prepared By The  
Missoula Forest Insect Laboratory  
Missoula, Montana

SUMMARY OF FOREST INSECT FIELD SURVEILLANCE  
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Division of Forest Insect Research

Outbreaks of forest insects should be detected early. Survey entomologists are responsible for discovering outbreaks, but they must of necessity be aided by the cooperation and active participation of national forest personnel and that of other Federal, State, or industrial forestry agencies. Field personnel can participate by watching for symptoms of insect infestations while performing other duties in the forests. Field surveillance reports usually constitute the first evidence of a forest insect infestation which may require further evaluation to determine the need for applied control. These reports can be written on special insect field surveillance reporting forms (Forest Pest Detection Field Report, Budget Bureau No. 40-R2884.1, Form FS-11) that list the location, tree species, local environment, tree damage symptoms, and other conditions associated with the outbreak. These forms can be obtained from the Laboratory or from cooperating Federal forestry agencies. The reports are of most value to survey entomologists when they are received soon after an infestation is detected.

In the northern Rocky Mountains, forest insect surveillance reports are submitted directly or are channeled to the Missoula Forest Insect Laboratory from cooperating agencies. The purpose of these reports is to notify the Laboratory of specific forest insect outbreaks in northeastern Washington, northern Idaho, Montana, northwestern South Dakota, and Yellowstone National Park. If warranted, a reported outbreak may be biologically evaluated from the ground or from the air to determine the extent, severity, and nature of the damage and the need for control action. The location of each outbreak is marked at the Laboratory on a map which helps in visualizing individual insect infestation patterns reported throughout the region. At the end of the season, surveillance reports are organized into a report, such as this, so that insect species involved may be recorded from year to year. While most detected insect damage is of minor importance, nearly all past serious outbreaks have been originally disclosed by surveillance reports made by technicians of the Laboratory or those of cooperating agencies. Occasionally reports are received that constitute new records of insect species, their distribution, hosts, or type of damage. These are of extreme academic importance to taxonomic as well as economic entomologists everywhere. The reports are also useful in plotting the annual occurrence of insect species and changes in host tree damage.

## INSECT OUTBREAKS REPORTED IN 1959

A total of 142 insect detection reports were received by the Laboratory in 1959, most of them between May and September when insects were most active and damage from their feeding most noticeable. This was a significant increase over the 72 reports received in 1958 and reflects greater interest of people working in the forests. The insects reported during 1959 are contained in a listing in table 1 of individual reports received. Other pertinent information on the locality, the host, and the name of the observer and his employing agency is also given in the listing.

During the year, 43 species of insects were reported to be causing damage to forest trees throughout the region. These have been serially numbered and listed in table 2. The location of each species reported is shown in figure 1. Of the 43 species reported, 11 were bark beetles, six of which are notorious tree killers (nos. 1, 2, 3, 4, 5, and 8). The lone wood borer (no. 12) reported is not of great economic importance. Two of the 10 defoliators (nos. 13 and 19) caused serious tree defoliation in 1959, with some tree mortality resulting from feeding by the spruce budworm (no. 13) over several years. None of the 8 sucking insects reported caused serious tree damage except to a few, widely scattered individual trees. Among the 5 cone, tip, and twig insects, two caused serious tree damage: the pine tip moth (31) to ponderosa pine reproduction, and the pine resin midge (34) to trees in ponderosa pine plantations. The eight miscellaneous insects reported are of academic interest primarily, but one species, the Engelmann spruce weevil (no. 43), continued to cause the killing or deformity of young spruce trees in several plantations in Idaho.

Reports of tree killing by the mountain pine beetle, the Douglas-fir beetle, and the western pine beetle were more numerous in 1959 than in 1958, suggesting increased abundance of these insects. Small groups of ponderosa pines attacked by lps spp. were apparent early in the spring throughout most of the northwest part of Region One. Aphids were reported feeding heavily on true firs region-wide.

The Laboratory acknowledges the help of entomologists in the Division of State, Private Forestry, Forest Service Region One, for stimulating interest in detecting and reporting insect outbreaks by national forest personnel. Similar acknowledgement is made of reports received from personnel of other agencies and from persons not affiliated with any agencies. It is hoped that this report will encourage those working in the forests of this region to remain alert to the ever-present danger of insect pests and to report promptly the insect outbreaks that they initially detect.

Table 1.--Forest insect field surveillance reports submitted to the Missoula Forest Insect Laboratory in 1959

| <u>Source<sup>1/</sup></u><br>of<br>report | <u>Date of<br/>examination</u> | <u>Locality</u>  | <u>Observer</u> | <u>Agency<sup>2/</sup></u> | <u>Causal Agent</u>                     | <u>Host<sup>3/</sup></u> |
|--|--------------------------------|--|-----------------|----------------------------|---|--------------------------|
| <u>BEAVERHEAD N. F., MONTANA</u>           |                                |  |                 |                            |   |                          |
| FSR  | 12/7/59                        | Wise River (T.1S,R.12W,Sec.36)   | F. Bailey       | FS                         | Pine needle scale                       | LPP                      |
| FSR  | 7/2/59                         | Soap Cr. (T.1S,R.1E,Sec.31)  | N. J. Howarth   | FS                         | Mountain pine beetle                    | LPP                      |
| <u>CLEARWATER N. F., IDAHO</u>             |                                |  |                 |                            |   |                          |
| FSR  | 7/24/59                        | Sheep Mtn. Cr. (T.40N,R 7E,<br>Sec. 31-32)                                   | R. G. Cox       | PFI                        | California tortoise-<br>shell butterfly | Ceanothus                |
| <u>COEUR D'ALENE N.F., IDAHO</u>           |                                |  |                 |                            |   |                          |
| FSR  | 8/13/59                        | Stevens Cr. (T.51N,R 4E,Sec.30)  | A. Tunnock      | FS                         | Aphid-Cinara sp.                        | GF *                     |
| FSR  | 5/6/59                         | Fernan Area  | C. J. Pedersen  | FS                         | Cooley spruce gall aphid                | DF                       |
| FSR  | 6/1/59                         | Hayden Lake area   | R. A. Smart     | FS                         | Pine needle scale                       | LPP                      |
| AR   | 8/5/59                         | Steamboat Cr. (T.51N,R 2E)   | J. Vandenberg   | FS                         | Mountain pine beetle                    | WWP *                    |
| AR   | 8/3/59                         | Coeur d' Alene District  | C. J. Pedersen  | FS                         | Mountain pine beetle                    | WWP                      |
| AR   | 8/3/59                         | Coeur d' Alene District  | C. J. Pedersen  | FS                         | Douglas-fir bark beetle                 | DF                       |
| <u>CUSTER N.F., MONT. AND S.D.</u>         |                                |  |                 |                            |   |                          |
| FSR  | 9/2/59                         | Whitcomb Draw (T.3S,R 60E, Sec.<br>7 & 8 and T.3S,R 61W, Sec.<br>1, 2, & 12) | B. W. Alt       | FS                         | Pine tip moth                           | PP *                     |
| FSR  | 9/2/59                         | Speelman Cr. (T.2S,R 61W,Sec.35)   | B. W. Alt       | FS                         | Black hills beetle                      | PP                       |
| FSR  | 9/2/59                         | Stillwater R. (T.7-8S,R 14E)   | G. H. Mueller   | FS                         | Engelmann spruce beetle                 | ES                       |
| FSR  | 9/25/59                        | Near Ashland   | R. Z. Callahan  | FS                         | Bird's-eye pine midge                   | PP                       |
| <u>DEERLODGE N.F., MONTANA</u>             |                                |  |                 |                            |   |                          |
| AR   | 8/24/59                        | Boulder District   | R. B. Jorgensen | FS                         | Spruce budworm                          | DF                       |
| AR   | 8/24/59                        | Butte District   | R. B. Jorgensen | FS                         | Spruce budworm                          | DF                       |
| AR   | 8/24/59                        | Whitehall District   | R. B. Jorgensen | FS                         | Spruce budworm                          | DF                       |



Table 1.--Forest insect field surveillance reports submitted to the Missoula Forest Insect Laboratory in 1959  
(continued)

| Source <sup>1/</sup><br>of<br>report  | Date of<br>examination | locality                                    | Observer        | Agency <sup>2/</sup> | Causal Agent             | Host <sup>3/</sup> |
|---------------------------------------|------------------------|---|-----------------|----------------------|--------------------------|--------------------|
| <u>DEERLODGE N.F. MONTANA (cont.)</u> |                        |   |                 |                      |                          |                    |
| AR                                    | 8/24/59                | Deerlodge District                          | R. B. Jorgensen | FS                   | Spruce budworm           | DF                 |
| AR                                    | 8/24/59                | Philipsburg District                        | R. B. Jorgensen | FS                   | Spruce budworm           | DF                 |
| AR                                    | 8/24/59                | Elkhorn Drainage                            | R. B. Jorgensen | FS                   | Spruce spider mite       | DF                 |
| AR                                    | 8/24/59                | Deerlodge District                          | R. B. Jorgensen | FS                   | Tent caterpillar         | chokecherry        |
| <u>FLATHEAD N.F., MONTANA</u>         |                        |   |                 |                      |                          |                    |
| FSR                                   | 6/10/59                | S.Fork Flathead R.(T.28N,R 17W,<br>Sec. 13) | J. Morrison     | FS                   | Mountain pine beetle     | WWP                |
| FSR                                   | 6/10/59                | S.Fork Flathead R.(T.28N,R 17W,<br>Sec. 13) | J. Morrison     | FS                   | Douglas-fir bark beetle  | DF                 |
| FSR                                   | 10/8/59                | Dickey Cr.(T. 29N,R. 16W,Sec.17)            | H. L. Schlueter | FS                   | Engelmann spruce beetle  | ES                 |
| FSR                                   | 10/5/59                | T. 25N., R. 15W, Sec. 17                    | J. E. Dewey     | FS                   | Cooley spruce gall aphid | DF                 |
| <u>GALLATIN N.F., MONTANA</u>         |                        |   |                 |                      |                          |                    |
| FSR                                   | 8/6/59                 | Buckskin Cr.in Hyalite Drainage             | E. D. White     | FS                   | A sawfly                 | LPP                |
| AR                                    | 8/14/59                | Six Mile Drainage                           | B. Driver       | FS                   | Douglas-fir bark beetle  | DF                 |
| AR                                    | 8/14/59                | Mol Heron Cr.                               | B. Driver       | FS                   | Douglas-fir bark beetle  | DF                 |
| AR                                    | 8/14/59                | Rock Cr.(T.7S, R. 6E, Sec.15-22)            | B. Driver       | FS                   | Douglas-fir bark beetle  | DF                 |
| AR                                    | 8/14/59                | Cinnabar Cr.(T.8S, R 7E, Sec.26)            | B. Driver       | FS                   | Douglas-fir bark beetle  | DF                 |
| <u>HELENA N.F., MONTANA</u>           |                        |   |                 |                      |                          |                    |
| FSR                                   | 7/22/59                | Strawberry Mountain                         | D. O. Scott     | FS                   | A pine tortrix           | PP                 |
| FSR                                   | 10/13/59               | General through Forest                      | D. Fellin       | FS                   | A sawfly                 | PP *               |
| AR                                    | 8/17/59                | Beartrap Burn (T.12N,R 7W)                  | J. G. Allen     | FS                   | Douglas-fir bark beetle  | DF                 |

Table 1.--Forest insect field surveillance reports submitted to the Missoula Forest Insect Laboratory in 1959  
(continued)

| Source <sup>1/</sup><br>of<br>report | Date of<br>examination | Locality  | Observer       | Agency <sup>2/</sup> | Causal Agent                      | Host <sup>3/</sup> |
|--------------------------------------|------------------------|---|----------------|----------------------|-----------------------------------|--------------------|
|                                      |                        | <u>KANIKSU N.F., IDAHO</u>  |                |                      |                                   |                    |
| FSR                                  | 3/5/59                 | W. of Copeland (T. 65N, R 1W, Secs. 9, 15, 16, 17)  | C. Morris      | P                    | An aphid                          | WF                 |
| FSR                                  | 6/12/59                | Quartz Cr. and Priest River,<br>(T. 57N, R 5W, Sec. 1 & 2)<br>(T. 57N, R 4W, Sec. 7 & 18) | W. R. Edinger  | FS                   | Bird's eye pine midge             | PP **              |
| AR                                   | 8/12/59                | Upper Myrtle, Compartment 519   | J. F. Meneely  | FS                   | Engelmann spruce beetle           | ES                 |
| AR                                   | 8/12/59                | Upper Smith, Compartment 509  | J. F. Meneely  | FS                   | Engelmann spruce beetle           | ES                 |
| AR                                   | 8/12/59                | American, Compartment 431   | J. F. Meneely  | FS                   | Engelmann spruce beetle           | ES                 |
| AR                                   | 8/12/59                | Canuck, Compartment 408   | J. F. Meneely  | FS                   | Engelmann spruce beetle           | ES                 |
| AR                                   | 8/12/59                | Blue Joe, Compartment 503   | J. F. Meneely  | FS                   | Engelmann spruce beetle           | ES                 |
| AR                                   | 8/11/59                | Granite Cr. (T. 62N.)   | D. Fandry      | FS                   | Mountain pine beetle              | WWP                |
| AR                                   | 8/10/59                | Wellington Cr. (T. 57N, R 2E)   | R. L. Gregson  | FS                   | Mountain pine beetle              | WWP                |
| AR                                   | 8/10/59                | Granite Cr. (T. 55N, R 1W & 1E)   | R. L. Gregson  | FS                   | Western pine beetle               | PP                 |
| AR                                   | 8/3/59                 | General in Newport District   | J. R. Jansson  | FS                   | Aphid - <u>Cinara</u> sp.         | GF                 |
| AR                                   | 7/29/59                | General in Falls District   | A. J. Arvish   | FS                   | Aphid - <u>Cinara</u> sp.         | A bies             |
| FSR                                  | 8/6/59                 | Kalispell Cr. (Gleason Burn)  | T. T. Terrell  | FS                   | Bird's-eye pine midge             | PP **              |
|                                      |                        | <u>KOOTENAI N. F., MONTANA</u>  |                |                      |                                   |                    |
| FSR                                  | 12/16/59               | Rexford Face (T. 36N, R 7 & 8W)   | H. Woffenden   | FS                   | Twig moth ( <u>Dioryctria</u> )   | PP                 |
| FSR                                  | 11/20/59               | Rexford District  | D. F. Williams | FS                   | Fir coneworm                      | DF                 |
| V                                    | 8/17/59                | General through Forest  | J. Castles     | FS                   | Aphid - <u>Cinara</u> sp          | GF                 |
| V                                    | 6/25/59                | Rexford R.S.  | D. O. Scott    | FS                   | A sawfly                          | ES *               |
| FSR                                  | 4/30/59                | Kootenai R. (T. 36N, R 28W, Sec. 31)  | F. Bolles      | FS                   | Western Pine Beetle               | PP                 |
| FSR                                  | 4/30/59                | Kootenai R. (T. 36N, R 28W, Sec. 31)  | F. Bolles      | FS                   | Fungus beetle ( <u>Corticus</u> ) | PP                 |
| M                                    | 3/59                   | Sullivan Cr. (T. 36N, R 29W, Sec. 16)   | R. E. Lockhart | FS                   | Engelmann spruce beetle           | ES *               |
| FSR                                  | 12/17/59               | McMillan Flat (T. 29N, R 30W, Sec. 7 & 18)  | D. Jaquish     | FS                   | A pine shoot moth                 | PP                 |
| M                                    | 7/7/59                 | Large & Runt Crs. (T. 36N, R 33W, Sec. 9)   | H. J. Zwang    | FS                   | <u>Apanteles</u> wasp (cocoons)   | S                  |

Table 1.--Forest insect field surveillance reports submitted to the Missoula Forest Insect Laboratory in 1959  
(continued)

| Source <sup>1/</sup><br>of<br>report   | Date of<br>examination | Locality  | Observer      | Agency <sup>2/</sup> | Causal Agent            | Host <sup>3/</sup> |
|--|------------------------|---|---------------|----------------------|-------------------------|--------------------|
| <u>KOOTENAI N. F., MONTANA (cont.)</u> |                        |   |               |                      |                         |                    |
| FSR                                    | 8/6/59                 | T.29N,R 29W,Secs. 7,8,17,18,19,20,<br>29 & 30   | T. T. Terrell | FS                   | Douglas-fir bark beetle | DF **              |
| AR                                     | 8/10/59                | Rexford District - Dodge Creek &<br>Pinkham Cr.(Slick Gulch)  | C. P. Kern    | FS                   | Douglas-fir bark beetle | DF                 |
| AR                                     | 8/10/59                | Yaak District - Kelsey Cr.,Dutch<br>Cr., Pete Cr.,Burnt Cr. &<br>Baldy Mountain                                   | T. P. Farbo   | FS                   | Douglas-fir bark beetle | DF                 |
| AR                                     | 8/10/59                | Fortine District-Grave Cr. &<br>Bluesky Cr.   | R. Feilzer    | FS                   | Douglas-fir bark beetle | DF                 |
| AR                                     | 8/10/59                | Troy District - Rabbit Cr.,<br>Hummingbird Cr.,Feeder Cr.,<br>O'Brien Cr., Stanley Peak,<br>and Benning Cr.       | R. W. Steiner | FS                   | Douglas-fir bark beetle | DF                 |
| AR                                     | 8/10/59                | Libby District - Libby Cr., &<br>Poker Hill   | D. Jaquish    | FS                   | Douglas-fir bark beetle | DF                 |
| AR                                     | 8/10/59                | Fisher R. District-Lower Fisher R.  | R. D. Hunter  | FS                   | Douglas-fir bark beetle | DF                 |
| AR                                     | 8/10/59                | Rexford District - Young, Dodge,<br>Boulder, N.F.Big and Big Crs.,<br>Red Mountain                                | C. P. Kern    | FS                   | Engelmann spruce beetle | ES *               |
| AR                                     | 8/10/59                | Yaak District - Hawkins, Jungle,<br>Winkam, Davis, Gold,Hudson,<br>S.F. Meadow Crs.,Upper and<br>Lower W.Fk. Yaak | R. P. Farbo   | FS                   | Engelmann spruce beetle | ES *               |
| AR                                     | 8/10/59                | Fortine District-Wigwam Cr.   | R. Feilzer    | FS                   | Engelmann spruce beetle | ES *               |
| AR                                     | 8/10/59                | Troy District - Madge Cr. &<br>Pulpit Mountain  | R. W. Steiner | FS                   | Engelmann spruce beetle | ES                 |
| AR                                     | 8/10/59                | Libby District - Cable Cr.  | D. Jaquish    | FS                   | Engelmann spruce beetle | ES                 |
| AR                                     | 8/10/59                | Rexford District - Boulder Cr.  | C. P. Kern    | FS                   | Mountain pine beetle    | PP                 |

Table 1.--Forest insect field surveillance reports submitted to the Missoula Forest Insect Laboratory in 1959  
(continued)

| Source <sup>1/</sup><br>of<br>report | Date of<br>examination | Locality  | Observer      | Agency <sup>2/</sup> | Causal Agent                                     | Host <sup>3/</sup> |
|--------------------------------------|------------------------|---|---------------|----------------------|--|--------------------|
|                                      |                        | <u>KOOTENAI N.F., MONT. (Cont.)</u>   |               |                      |  |                    |
| AR                                   | 8/10/59                | Yaak District - Pete, Beetle,<br>Spread, 4th of July, Burnt,<br>S.F. of Meadow Crs.                           | T. P. Farbo   | FS                   | Mountain pine beetle                             | WPP                |
| AR                                   | 8/10/59                | Fortine District - Wigwam Cr.   | R. Feilzer    | FS                   | Mountain pine beetle                             | LPP                |
| AR                                   | 8/10/59                | Troy District - Whoopee, Hiatt,<br>Briar, Drift, Feeder and<br>Raymond Crs.                                   | R. W. Steiner | FS                   | Mountain pine beetle                             | WPP                |
| AR                                   | 8/10/59                | Libby District - Pipe Cr. Ridge   | D. Jaquish    | FS                   | Mountain pine beetle                             | PP                 |
| AR                                   | 8/10/59                | Pinkham Cr. (T.36N,R 28W)   | C. P. Kern    | FS                   | Moth ( <u>Laspyresia</u><br><u>Fletcherana</u> ) | DF                 |
| AR                                   | 8/10/59                | General through Forest  | R. H. Cron    | FS                   | Bird's-eye pine midge                            | PP **              |
|                                      |                        | <u>LEWIS &amp; CLARK N.F., MONTANA</u>  |               |                      |  |                    |
| FSR                                  | 10/30/59               | Montana Gulch (N. of Zortman)   | N. Wellter    | BIA                  | A sawfly   | LPP                |
| FSR                                  | 8/6/59                 | Little Rockies (T.25N,R 24E,<br>Sec. 15 and T. 25N, R 25E,<br>Sec. 31)  | M. F. Phillip | FS                   | Lodgepole pine sawfly                            | LPP *              |
| FSR                                  | 4/6/59                 | Harlowton, Mont.  | D. Reed       | FS                   | Clover mite                                      | In house           |
| AR                                   | 8/17/59                | W. half Belt Cr. District   | M. F. Phillip | FS                   | Spruce budworm                                   | DF                 |
| AR                                   | 8/17/59                | Judith Dist.-Running Wolf,<br>Spring Coulee, Dry Wolf,<br>Morris, Elk, Yogo Crs.<br>S.F. Judith, High Springs | M. F. Phillip | FS                   | Spruce budworm                                   | DF                 |
| AR                                   | 8/17/59                | Musselshell Dist.-Lion-Mill Cr.   | M. F. Phillip | FS                   | Spruce budworm                                   | DF                 |
| AR                                   | 8/17/59                | White Sulphur Springs Dist. -<br>Whitetail Deer, Decker, and<br>Eagle Crs.                                    | M. F. Phillip | FS                   | Spruce budworm                                   | DF                 |



Table 1.--Forest insect field surveillance reports submitted to the Missoula Forest Insect Laboratory in 1959  
(continued)

| Source <sup>1/</sup><br>of<br>report | Date of<br>examination | Locality   | Observer       | Agency <sup>2/</sup> | Causal Agent                            | Host <sup>3/</sup> |
|--------------------------------------|------------------------|--|----------------|----------------------|---|--------------------|
| <u>LOLO N.F., MONTANA</u>            |                        |  |                |                      |   |                    |
| FSR                                  | 7/23/59                | Seeley Lake area   | P. C. Johnson  | FS                   | An aphid                                | AF *               |
| FSR                                  | 5/15/59                | Bend G.S.  | D. Carter      | FS                   | Pine needle scale                       | LPP                |
| FSR                                  | 3/18/59                | Frenchtown (T.15N,R 21W,Sec.36)  | A. Tunnock     | FS                   | Western pine beetle                     | PP *               |
| FSR                                  | 3/18/59                | Frenchtown (T.15N,R 21W,Sec.36)  | A. Tunnock     | FS                   | <u>Ips integer</u>                      | PP *               |
| FSR                                  | 3/2/59                 | Quartz Cr. (T.15N,R 24W,Sec.9)   | E. J. Kinsman  | FS                   | <u>Ips emarginatus</u>                  | PP *               |
| FSR                                  | 3/2/59                 | Quartz Cr. (T.15N,R 24W,Sec.9)   | E. J. Kinsman  | FS                   | <u>Ips integer</u>                      | PP *               |
| FSR                                  | 3/2/59                 | Quartz Cr. (T.15N,R 24W,Sec.9)   | E. J. Kinsman  | FS                   | <u>Ips oregonis</u>                     | PP *               |
| FSR                                  | 3/2/59                 | Quartz Cr. (T.15N,R 24W,Sec.9)   | E. J. Kinsman  | FS                   | Western pine beetle                     | PP *               |
| FSR                                  | 3/2/59                 | Quartz Cr. (T.15N,R 24W,Sec.9)   | E. J. Kinsman  | FS                   | Fungus beetle ( <u>Corticus</u> )       | PP *               |
| FSR                                  | 3/2/59                 | Quartz Cr. (T.15N,R 24W,Sec.9)   | E. J. Kinsman  | FS                   | Scavenger beetle<br>( <u>Aulonius</u> ) | PP *               |
| AR                                   | 8/20/59                | General through Forest   | B. C. Amsbaugh | FS                   | Cooley spruce gall aphid                | DF                 |
| AR                                   | 8/20/59                | Powell, Superior and Thompson<br>Falls Districts                                 | B. C. Amsbaugh | FS                   | Engelmann spruce beetle                 | ES                 |
| AR                                   | 8/20/59                | Ninemile, Seeley Lake and<br>Powell Districts                                    | B. C. Amsbaugh | FS                   | Douglas-fir bark beetle                 | DF                 |
| AR                                   | 8/20/59                | East end of Bonita Dist.   | B. C. Amsbaugh | FS                   | Spruce budworm                          | DF                 |
| AR                                   | 8/20/59                | Lost Park Cr. on Lolo Dist.  | B. C. Amsbaugh | FS                   | Spruce budworm                          | DF                 |
| <u>NEZPERCE N.F., IDAHO</u>          |                        |  |                |                      |   |                    |
| AR                                   | 8/4/59                 | Elfers and Cow Crs.  | D. R. Howard   | FS                   | Pine butterfly                          | PP                 |
| AR                                   | 8/4/59                 | Meadow Cr.   | J. R. Lyman    | FS                   | Pine butterfly                          | PP                 |
| AR                                   | 8/4/59                 | Peasley, Cougar, Meadow Crs.,<br>Blacktail Mountain                              | J. R. Lyman    | FS                   | Western pine beetle                     | PP                 |
| AR                                   | 8/14/59                | Rhoda, Wounded Doe, Lizard,<br>Three Links, Log, Sixty-two,<br>and W. Moose Crs. | L. O. Smith    | FS                   | Engelmann spruce beetle                 | ES                 |

Table 1.--Forest insect field surveillance reports submitted to the Missoula Forest Insect Laboratory in 1959  
(continued)

| Source <sup>1/</sup><br>of<br>report | Date of<br>examination | Locality   | Observer        | Agency <sup>2/</sup> | Causal Agent                            | Host <sup>3/</sup> |
|--------------------------------------|------------------------|--|-----------------|----------------------|---|--------------------|
| <u>NEZPERCE N.F., IDAHO (Cont.)</u>  |                        |  |                 |                      |   |                    |
| AR                                   | 8/18/59                | Tahoe Ridge (T.32N,R 6E)                                   | K. W. Spelman   | FS                   | Douglas-fir bark beetle                 | DF                 |
| AR                                   | 8/18/59                | Tahoe Ridge (T.32N,R 6E)                                   | K. W. Spelman   | FS                   | Western pine beetle                     | PP                 |
| <u>ST. JOE N.F., IDAHO</u>           |                        |  |                 |                      |   |                    |
| V                                    | 9/3/59                 | Berge Cr. (T.44N,R 9E,Sec.5)                               | D. A. Graham    | FS                   | Mountain pine beetle                    | LPP *              |
| FSR                                  | 7/31/59                | Rock Cr. (T.46N,R 4E,Sec.36)                               | J. E. Estes     | FS                   | California tortoise-<br>shell butterfly | Ceanothus*         |
|                                      |                        | Storm Cr. (T.46N,R 5E,Sec.20)                              |                 |                      |   |                    |
| FSR                                  | 2/16/59                | Near Palouse R.S.  | T. L. Finch     | FS                   | <u>Ips oregonis</u>                     | PP *               |
| FSR                                  | 2/16/59                | Near Palouse R.S.  | T. L. Finch     | FS                   | <u>Ips integer</u>                      | PP *               |
| FSR                                  | 2/16/59                | Near Palouse R.S.  | T. L. Finch     | FS                   | Western pine beetle                     | PP *               |
| AR                                   | 8/24/59                | Lamb Cr. (T.47N,R 3W)                                      | G. F. Weyermann | FS                   | Aphid-Cinara sp                         | GF                 |
| AR                                   | 8/24/59                | Bird & Bottle Crs. Turner Flats                            | A. B. Johnson   | FS                   | Mountain pine beetle                    | WWP *              |
| AR                                   | 8/24/59                | Bird Cr. to Gold Cr.                                       | A. B. Johnson   | FS                   | Douglas-fir bark beetle                 | DF                 |
| AR                                   | 8/24/59                | Palouse R. and Boulder Cr.                                 | C. J. Miller    | FS                   | <u>Ips</u> sp                           | PP                 |
| RO                                   | 11/2/59                | Palouse Dist.-E.Fk Meadow Cr.                              | H. J. Viche     | FS                   | Douglas-fir bark beetle                 | DF                 |
| <u>FORT BELKNAP INDIAN RES.</u>      |                        |  |                 |                      |   |                    |
| FSR                                  | 10/28/59               | T.25N,R 25E,Sec.2 SE $\frac{1}{4}$ ,Sec.1 SW $\frac{1}{4}$ | N. Weelter      | BIA                  | A sawfly                                | PP                 |
| <u>IDAHO (PRIVATE LANDS)</u>         |                        |  |                 |                      |   |                    |
| FSR                                  | 8/17/59                | T.47N, R 3W, Sec. 23                                       | W. J. Mitchell  | P                    | Aphid - <u>Cinara</u> sp                | GF                 |
| <u>WASHINGTON (PRIVATE LANDS)</u>    |                        |  |                 |                      |   |                    |
| FSR                                  | 5/25/59                | Spokane  | C. Chapman      | P                    | Spruce spider mite                      | S                  |

Table 1.--Forest insect field surveillance reports submitted to the Missoula Forest Insect Laboratory in 1959  
(continued).

| <u>Source<sup>1/</sup></u><br>of<br>report | <u>Date of<br/>examination</u> | <u>Locality</u>                    | <u>Observer</u>   | <u>Agency<sup>2/</sup></u> | <u>Causal Agent</u>            | <u>Host<sup>3/</sup></u> |
|--|--------------------------------|------------------------------------|-------------------|----------------------------|--------------------------------|--------------------------|
| <u>MONTANA (PRIVATE LANDS)</u>             |                                |                                    |                   |                            |                                |                          |
| V  | 7/18/59                        | Augusta, Montana                   | Mr. Beull         | P                          | Spruce spider mite             | S                        |
| FSR  | 9/25/59                        | Thompson Falls, Montana            | N. Fullerton      | P                          | Pear slug                      | cherries and<br>pears    |
| FSR  | 9/16/59                        | N.of Armell (T.18N,R 20E,Sec.3&10) | R. Zobell         | BLM                        | A sawfly                       | PP *                     |
| FSR  | 3/4/59                         | Plains (T.20N,R 26W,Sec.19)        | R. L. Carter      | FS                         | Western pine beetle            | PP *                     |
| FSR  | 3/4/59                         | Plains (T.20N,R 26W,Sec.19)        | R. L. Carter      | FS                         | <u>Ips oregonis</u>            | PP *                     |
| V  | 5/14/59                        | Missoula, Montana                  | Mrs. G. L. Barnes | P                          | Pine needle scale              | S *                      |
| FSR  | 6/12/59                        | Ennis, Montana                     | E. Love           | SCS                        | Scavenger beetle (Cacujid)     | Poplar                   |
| FSR  | 6/12/59                        | Ennis, Montana                     | E. Love           | SCS                        | Predaceous fly<br>(Xylophagid) | Poplar                   |
| V  | 6/29/59                        | St. Patrick's Hospital, Missoula   | Mr. Lansing       | P                          | Spruce spider mite             | S                        |
| FSR  | 7/17/59                        | Livingston, Montana                | J. J. Van Aiken   | P                          | Aphids                         | S                        |
| V  | 8/17/59                        | East shore Flathead Lake           | V. Johnson        | P                          | Carpenter ants                 | Timber                   |
| V  | 9/11/59                        | Missoula, Montana                  | G. Sherry         | P                          | Wood borers (Buprestid)        | Juniper*                 |
| V  | 6/23/59                        | Missoula, Montana                  | M. F. Stockner    | P                          | Red turpentine beetle          | PP *                     |
| V  | 6/23/59                        | Missoula, Montana                  | M. F. Stockner    | P                          | Western pine beetle            | PP *                     |
| V  | 7/13/59                        | Missoula, Montana                  | C. B. Westcott    | FS                         | Spruce needle miner            | S *                      |
| V  | 7/13/59                        | Missoula, Montana                  | C. B. Westcott    | FS                         | Pine needle scale              | S *                      |
| <u>GLACIER NATIONAL PARK</u>               |                                |                                    |                   |                            |                                |                          |
| FSR  | 9/19/59                        | Kishenehn Cr.                      | A. Tunnock        | FS                         | Engelmann spruce weevil        | ES *                     |
| FSR  | 6/15/59                        | E. Shore St. Mary Lake             | E. Hummel         | NPS                        | Cooley spruce gall aphid       | DF                       |
| FSR  | 9/24/59                        | Southeastern shore Lake McDonald   | A. Tunnock        | FS                         | Douglas-fir bark beetle        | DF *                     |
| FSR  | 9/24/59                        | Southeastern shore Lake McDonald   | A. Tunnock        | FS                         | Douglas-fir bark beetle        | L *                      |
| FSR  | 9/24/59                        | Southeastern shore Lake McDonald   | A. Tunnock        | FS                         | Mountain pine beetle           | WVP *                    |

Table 1.--Forest insect field surveillance reports submitted to the Missoula Forest Insect Laboratory in 1959  
(continued)

| <u>Source<sup>1/</sup></u><br>of<br>report | <u>Date of<br/>examination</u> | <u>Locality</u>                           | <u>Observer</u> | <u>Agency<sup>2/</sup></u> | <u>Causal Agent</u>           | <u>Host<sup>3/</sup></u> |
|--|--------------------------------|---|-----------------|----------------------------|-------------------------------|--------------------------|
|  |                                | <u>BUR. LAND MGT., MONTANA</u>            |                 |                            |                               |                          |
| FSR  | 3/6/59                         | Centennial Valley(T.14N,R 1E,<br>Sec. 21) | J. E. Coster    | BLM                        | Spruce budworm                | DF *                     |
|  |                                | <u>MONTANA (STATE LANDS)</u>              |                 |                            |                               |                          |
| FSR  | 7/13/59                        | Rexford(T. 36N,R 27-28W)                  | H. T. Vars      | MSFD                       | Bird's-eye pine midge         | PP                       |
| FSR  | 8/19/59                        | Blackfoot Valley(T.13N,R 15W,<br>Sec. 14) | D. O. Scott     | FS                         | Larch sawfly                  | L                        |
| V  | 1/14/59                        | M.S.University, Missoula                  | F. W. Krieger   | MSU                        | Pine needle scale             | Pine                     |
|  |                                | <u>IDAHO (STATE LANDS)</u>                |                 |                            |                               |                          |
| FSR  | 6/4/59                         | Near Pierce                               | P. C. Johnson   | FS                         | Beetle( <u>Pityogenes</u> sp) | WWP *                    |
|  |                                | <u>WASHINGTON (STATE LANDS)</u>           |                 |                            |                               |                          |
| FSR  | 11/9/59                        | Spokane                                   | P. C. Johnson   | FS                         | Black pine leaf scale         | PP *                     |



## KEY TO ABBREVIATIONS IN TABLE ONE

1/

AR = annual insect report of Forest  
Service district rangers  
FSR = field surveillance report  
M = memo  
RO = Forest Service regional office  
V = verbal

\* = area surveyed on the  
ground by Laboratory  
personnel

\*\* = area surveyed from the  
air by Laboratory  
personnel

2/

FS = United States Forest Service  
BIA = United States Bureau of Indian Affairs  
PFI = Potlatch Forests, Incorporated  
P = private individual  
MSFD = Montana State Forestry Department  
BLM = Bureau of Land Management  
NPS = National Park Service  
MSU = Montana State University  
SCS = Soil Conservation Service

3/

AF = alpine fir  
DF = Douglas-fir  
ES = Engelmann spruce  
GF = grand fir  
L = western larch

LPP = lodgepole pine  
PP = ponderosa pine  
S = spruce (ornamentals)  
WF = white fir  
WWP = western white pine

Table 2.--Identity and occurrence of forest insects reported to the Missoula Forest Insect Laboratory in 1959

| Number              | Common name                     | Order       | Family         | Genus and species                                 | No. of times reported |
|---------------------|---------------------------------|-------------|----------------|---|-----------------------|
| <u>BARK BEETLES</u> |                                 |             |                |   |                       |
| 1                   | Douglas-fir beetle              | Coleoptera  | Scolytidae     | <u>Dendroctonus pseudotsugae</u> (Hopk.)          | 20                    |
| 2                   | Mountain pine beetle            | Coleoptera  | Scolytidae     | <u>Dendroctonus monticolae</u> Hopk.              | 14                    |
| 3                   | Engelmann spruce beetle         | Coleoptera  | Scolytidae     | <u>Dendroctonus engelmanni</u> Hopk.              | 16                    |
| 4                   | Western pine beetle             | Coleoptera  | Scolytidae     | <u>Dendroctonus brevicomis</u> Lec.               | 9                     |
| 5                   | Black hills beetle              | Coleoptera  | Scolytidae     | <u>Dendroctonus ponderosae</u> Hopk.              | 1                     |
| 6                   | Red turpentine beetle           | Coleoptera  | Scolytidae     | <u>Dendroctonus valens</u> Lec.                   | 1                     |
| 7                   | Pine engraver beetle            | Coleoptera  | Scolytidae     | <u>Ips</u> spp.                                   | 1                     |
| 8                   | Oregon pine engraver            | Coleoptera  | Scolytidae     | <u>Ips oregonis</u> (Eichh.)                      | 3                     |
| 9                   | Emarginate ips                  | Coleoptera  | Scolytidae     | <u>Ips emarginatus</u> Lec.                       | 1                     |
| 10                  | Sawtooth pine engraver          | Coleoptera  | Scolytidae     | <u>Ips integer</u> Eichh.                         | 3                     |
| 11                  | Pine engraver beetle            | Coleoptera  | Scolytidae     | <u>Pityogenes</u> sp                              | 1                     |
| <u>WOOD BORERS</u>  |                                 |             |                |   |                       |
| 12                  | Flatheaded borer                | Coleoptera  | Buprestidae    | Undetermined                                      | 1                     |
| <u>DEFOLIATORS</u>  |                                 |             |                |   |                       |
| 13                  | Spruce budworm                  | Lepidoptera | Tortricidae    | <u>Choristoneura fumiferana</u> (Clem.)           | 12                    |
| 14                  | A pine tortrix                  | Lepidoptera | Tortricidae    | <u>Choristoneura</u> probably <u>lambertianae</u> | 1                     |
| 15                  | Calif. tortoise-shell butterfly | Lepidoptera | Nymphalidae    | <u>Nymphalis californica</u> (Bdr.)               | 2                     |
| 16                  | Tent caterpillar                | Lepidoptera | Lasiocampidae  | <u>Malacosoma</u> sp.                             | 1                     |
| 17                  | Larch sawfly                    | Hymenoptera | Tenthredinidae | <u>Pristiphora erichsonii</u> (Hartig)            | 1                     |
| 18                  | Sawflies                        | Hymenoptera |                | Undetermined                                      | 6                     |
| 19                  | Lodgepole pine sawfly           | Hymenoptera | Diprionidae    | <u>Neodiprion burkei</u> Midd.                    | 1                     |
| 20                  | An Olethreutid moth             | Lepidoptera | Olethreutidae  | <u>Laspeyresia fletcherana</u> (Kearf.)           | 1                     |
| 21                  | Pine butterfly                  | Lepidoptera | Pieridae       | <u>Neophasia menapia</u> Feld.                    | 2                     |
| 22                  | Pear slug                       | Hymenoptera | Tenthredinidae | <u>Caliora cerasi</u> (Linn)                      | 1                     |

Table 2.--Identity and occurrence of forest insects reported to the Missoula Forest Insect Laboratory in 1959 (Cont.)

| Number                           | Common name                  | Order       | Family        | Genus and species                              | No. of times reported |
|----------------------------------|------------------------------|-------------|---------------|--|-----------------------|
| <u>SUCKING INSECTS</u>           |                              |             |               |  |                       |
| 23                               | Aphid (on <u>Abies</u> )     | Homoptera   | Aphidae       | <u>Cinara</u> sp.                              | 8                     |
| 24                               | Cooley spruce gall aphid     | Homoptera   | Phylloxeridae | <u>Chermes cooleyi</u> Gill                    | 4                     |
| 25                               | Aphid (on alpine fir)        | Homoptera   |               | Undetermined                                   | 1                     |
| 26                               | Aphid (on spruce)            | Homoptera   |               | Undetermined                                   | 1                     |
| 27                               | Pine needle scale            | Homoptera   | Coccidae      | <u>Phenacaspis pinifoliae</u> (Fitch)          | 4                     |
| 28                               | Black pine leaf scale        | Homoptera   | Coccidae      | <u>Nuculaspis californica</u> (Coleman)        | 1                     |
| 29                               | Spruce spider mite           | Acarina     | Tetranychidae | <u>Oliyonychus ununguis</u> (Jacobi)           | 4                     |
| 30                               | Clover mite                  | Acarina     | Tetranychidae | <u>Bryobia praetiosa</u> (Koch)                | 1                     |
| <u>CONE TIP AND TWIG INSECTS</u> |                              |             |               |  |                       |
| 31                               | Pine tip moth                | Lepidoptera | Olethreutidae | <u>Rhyacionia frustrana bushnelli</u> (Busch)  | 2                     |
| 32                               | A twig moth                  | Lepidoptera | Pyralidae     | <u>Dioryctria</u> spp.                         | 1                     |
| 33                               | A pine shoot moth            | Lepidoptera |               | Undetermined                                   | 1                     |
| 34                               | Pine resin midge             | Diptera     | Itonididae    | <u>Retinodiplosis</u> near <u>inopsis</u> O.S. | 5                     |
| 35                               | Cone pyralid                 | Lepidoptera | Pyralidae     | <u>Dioryctria abietella</u> (D. & S.)          | 1                     |
| <u>MISCELLANEOUS INSECTS</u>     |                              |             |               |  |                       |
| 36                               | Fungus eating beetle         | Coleoptera  | Tenebrionidae | <u>Corticeus</u> sp.                           | 2                     |
| 37                               | Scavenger beetle (on PP)     | Coleoptera  | Colydiidae    | <u>Aulonium</u> sp.                            | 1                     |
| 38                               | Wasp on spruce needles       | Hymenoptera | Braconidae    | <u>Apanteles</u> sp.                           | 1                     |
| 39                               | Scavenger beetle (on poplar) | Coleoptera  | Cacujidae     | undetermined                                   | 1                     |
| 40                               | Predaceous fly (on poplar)   | Diptera     | Xylophagidae  | undetermined                                   | 1                     |
| 41                               | Carpenter ants               | Hymenoptera | Formicidae    | <u>Camponotus</u> sp.                          | 1                     |
| 42                               | Spruce needle miner          | Lepidoptera | Olethreutidae | <u>Taniva albolineana</u> (Kearf.)             | 1                     |
| 43                               | Engelmann spruce weevil      | Coleoptera  | Curculionidae | <u>Pissodes engelmanni</u> Hopk.               | 1                     |

Total

142

Table 3.--Frequency of reports from cooperating agencies during 1959

| <u>Agency</u>                     | <u>No. of reports</u> |
|-----------------------------------|-----------------------|
| U. S. Forest Service              |                       |
| Regional Office                   | 8                     |
| National Forests:                 |                       |
| Beaverhead                        | 2                     |
| Bitterroot                        | 0                     |
| Clearwater                        | 0                     |
| Coeur d' Alene                    | 5                     |
| Colville                          | 0                     |
| Custer                            | 3                     |
| Deerlodge                         | 7                     |
| Flathead                          | 4                     |
| Gallatin                          | 5                     |
| Helena                            | 1                     |
| Kaniksu                           | 11                    |
| Kootenai                          | 25                    |
| Lewis and Clark                   | 6                     |
| LoLo                              | 14                    |
| Nezperce                          | 6                     |
| St. Joe                           | 10                    |
| Missoula Forest Insect Laboratory | 12                    |
| U. S. Bureau of Indian Affairs    | 2                     |
| Potlatch Forests, Incorporated    | 1                     |
| Private individuals               | 12                    |
| Montana State Forestry Department | 1                     |
| Bureau of Land Management         | 2                     |
| National Park Service             | 1                     |
| Montana State University          | 1                     |
| Soil Conservation Service         | 2                     |
|                                   | <hr/>                 |
| Total                             | 141                   |



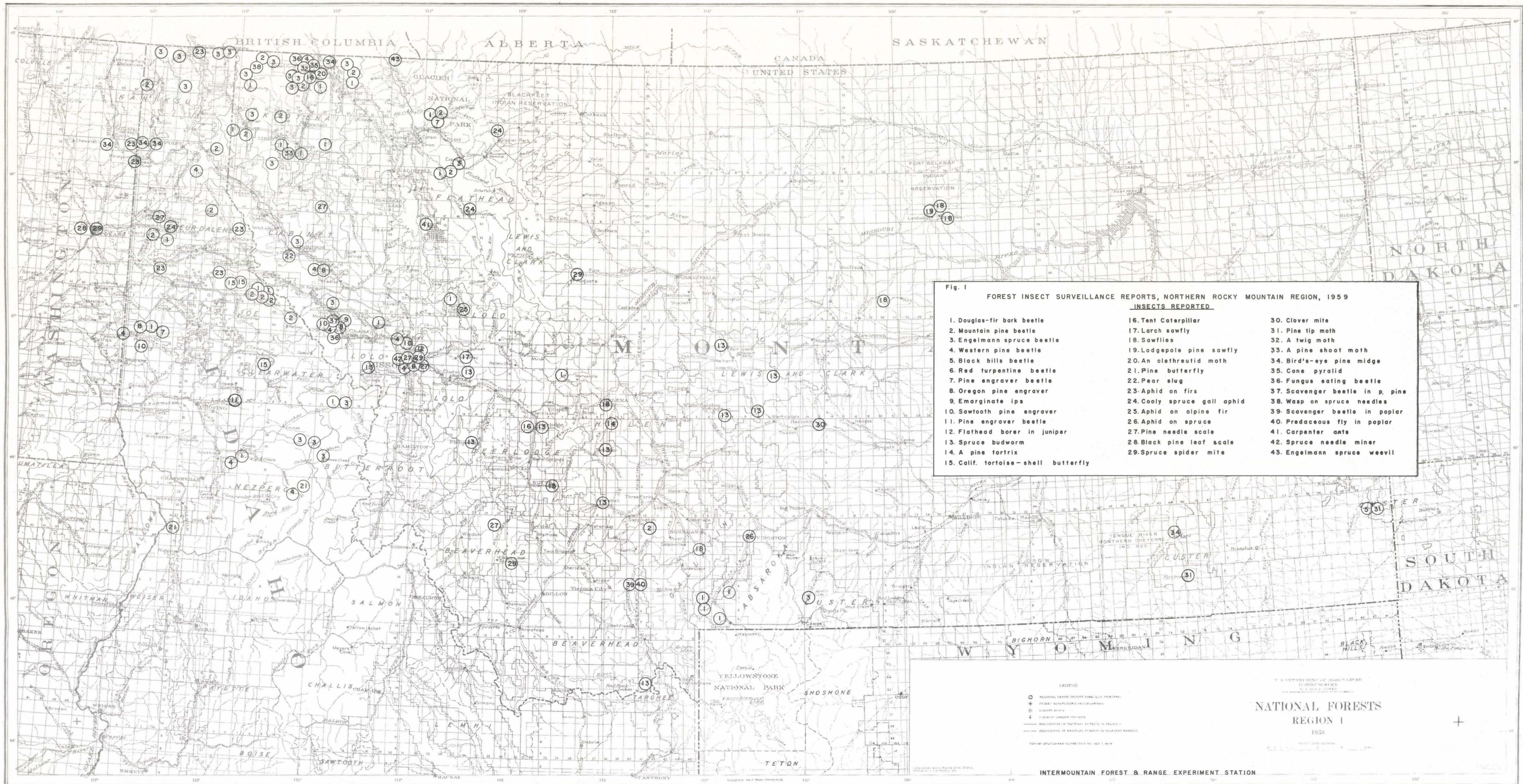


Fig. 1  
FOREST INSECT SURVEILLANCE REPORTS, NORTHERN ROCKY MOUNTAIN REGION, 1959

**INSECTS REPORTED**

|                                     |                              |                                 |
|-------------------------------------|------------------------------|---------------------------------|
| 1. Douglas-fir bark beetle          | 16. Tent Caterpillar         | 30. Clover mite                 |
| 2. Mountain pine beetle             | 17. Larch sawfly             | 31. Pine tip moth               |
| 3. Engelmann spruce beetle          | 18. Sawflies                 | 32. A twig moth                 |
| 4. Western pine beetle              | 19. Lodgepole pine sawfly    | 33. A pine shoot moth           |
| 5. Black hills beetle               | 20. An olethreutid moth      | 34. Bird's-eye pine midge       |
| 6. Red turpentine beetle            | 21. Pine butterfly           | 35. Cone pyralid                |
| 7. Pine engraver beetle             | 22. Pear slug                | 36. Fungus eating beetle        |
| 8. Oregon pine engraver             | 23. Aphid on firs            | 37. Scavenger beetle in p. pine |
| 9. Emarginate ips                   | 24. Cooley spruce gall aphid | 38. Wasp on spruce needles      |
| 10. Sawtooth pine engraver          | 25. Aphid on alpine fir      | 39. Scavenger beetle in poplar  |
| 11. Pine engraver beetle            | 26. Aphid on spruce          | 40. Predaceous fly in poplar    |
| 12. Flathead borer in juniper       | 27. Pine needle scale        | 41. Carpenter ants              |
| 13. Spruce budworm                  | 28. Black pine leaf scale    | 42. Spruce needle miner         |
| 14. A pine tortrix                  | 29. Spruce spider mite       | 43. Engelmann spruce weevil     |
| 15. Calif. tortoise-shell butterfly |                              |                                 |

LEGEND

- REGIONAL HEADQUARTERS (NORTH SLOPE, MONTANA)
- COUNTY BOUNDARIES
- COUNTY SEALS
- BOUNDARIES OF NATIONAL FORESTS IN REGION
- BOUNDARIES OF NATIONAL FORESTS IN ADJACENT REGIONS

FOREST SURVEILLANCE CORRELATION JULY 1, 1958

NATIONAL FORESTS  
REGION 1  
1958

INTERMOUNTAIN FOREST & RANGE EXPERIMENT STATION